Applicants: Liu, et al. Serial No.: 09/899,481 Filed: July 5, 2001

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## In the Abstract:

Please replace the abstract with the following version.

--A four-port loop optical circulator includes a first, a second, a third and a fourth optical ports for receiving optical beam therein. The circulator further includes a plurality of optical components. The optical components include a walk-off crystal for generating a vertical optical path displacement for a vertical polarized optical beam and for passing a horizontally polarized optical beam therethrough maintaining a same optical path. The optical components also include a vertical displacement device for shifting an optical path along a vertical direction with a predefined vertical displacement for an optical beam transmitted with a particular polarization. The vertical displacement device is coupled to the walk-off crystal for guiding a beam received from the fourth port to project from the first port.--

